ABSTRACT

A method of fabricating an inkjet printhead chip includes the step of etching a drive circuitry layer that is positioned on a substrate to define regions for roof structures. A first layer of a thermally expandable material is deposited on the drive circuitry layer to cover said regions. The first layer of thermally expandable material and the drive circuitry layer are etched to define a deposition zone for heating circuit material at each region and contact vias for the heating circuit material. At least one heating circuit is formed at each region in electrical contact with the drive circuitry layer by means of the contact vias. A second layer of a thermally expandable material is deposited on the heating circuit material. Both layers of thermally expandable material are etched to define a roof structure at each region such that each roof structure includes at least one actuator at each region and defines an ink ejection port, and such that each heating circuit is embedded in each respective actuator in a position such that heating of the expandable material by the heating circuit results in differential thermal expansion of the actuator and resultant displacement of each actuator. The substrate is etched to define a plurality of nozzle chambers and corresponding ink inlet channels, such that each nozzle chamber and its associated ink inlet channel are positioned beneath each roof structure.